

UNIVERSITY OF LOUISVILLE
Proposed Projects Involving the General Fund (cash or bonds)
(amounts in **bold** are the total budget)

2014-2016

(Projects listed by agency priority; descriptions are from the agency submission)

1 Construct – Belknap Classroom/Academic Building **\$80,560,000**

This authorization allows the construction of a new 155,000 GSF interdisciplinary classroom building. The new building will provide office space for the departments in the College of Arts and Sciences along with needed high-technology classrooms and student laboratories to facilitate instruction for both undergraduate and graduate students. (C-O)

2 Construct - Instructional Building at HSC **\$71,730,000**

This project will construct new instructional space while renovating existing instructional areas along with the Kornhauser Library to serve the academic needs of the Health Sciences Center. The project will include construction of an in-fill building of approximately 81,000 GSF to the HSC Quadrangle to provide state-of-the-art instructional facilities including two large lecture halls seating approximately 200 students, a series of smaller seminar rooms, computer testing facilities, and a new Gross Anatomy Instructional Laboratory. The new Gross Anatomy Lab will support the increase in class size of both the Schools of Medicine and Dentistry, and will allow for the installation of imaging and computer-based instructional systems for the display of MRI, computer tomography and x-ray images to simulate diagnostic tools used in current professional practice.

Existing instructional space will be renovated to expand the current clinical skills and simulation training facility, and to create additional small group and student study spaces. The Kornhauser Health Sciences Library/Commons, a 72,147 GSF facility serving the research and academic needs of Medical, Dental, Nursing, Public Health and Informational Science programs for undergraduate, graduate and post-doctoral programs will also be renovated. The present facility has not undergone major modernization since it was constructed in 1970. The renovation will upgrade the facility to accommodate modern computer-based learning and research technology. It is essential that the building receives total modernization, including replacement of mechanical, electrical, and voice/data systems along with being re-configured to meet the needs of new teaching procedures that stress group-based learning and problem solving in a technology rich environment. The overall layout will also be modified to enhance support of the instructional programs by providing greater access to technology and multi-purpose study spaces. (C-O)

3 Renovate - Capital Renewal Pool (2014-2016) \$68,487,000

The Capital Renewal Pool will allow the university to address approximately ten types of projects: roof replacement, windows, exterior building upgrades, interior building upgrades, walking surfaces, electrical upgrades, data collection and security panels, emergency generators, mechanical upgrades, and carpet/floor tile. (C-PI)

4 Expand and Renovate - Life Sciences Building \$72,015,000

This authorization will renovate the existing 117,800 gsf facility, originally constructed in 1969, including correcting deficiencies by renewing the entire building infrastructure. Existing labs will be renewed and new research labs will be created in the existing building. Additionally, a 48,000 gsf addition will be constructed for relocation of teaching labs, creating a modern, media rich lab/classroom environment integrating interactive technologies to support and enhance the classroom and laboratory experience. Multi-media audiovisual equipment is becoming commonplace not only in the classrooms, but in the teaching laboratories as well. The Council on Postsecondary Education updated space model found that UL had a deficit in 2012 of 50,675 assignable square feet (asf) or 38% in classroom space. This deficit is expected to grow to 105,875 asf or 80% by 2020. The study also projected a deficit of 97,456 asf of teaching labs. (C-PI)

2016-2018

(Projects listed in alphabetical order)

Construct - Belknap Research / Academic / Conn Center	\$100,130,000
Construct - HSC Research Facility V	181,300,000
Construct - Shelbyhurst Research Building	63,580,000
Expand - School of Public Health & Info Sciences	11,610,000
Renovate - Capital Renewal Pool (2016-2018)	17,168,000

2018-2020

(Projects listed in alphabetical order)

Construct - Belknap Research Building II	\$88,120,000
Renovate - Capital Renewal Pool	11,576,000

UNIVERSITY OF LOUISVILLE
Proposed Projects Involving Agency Bonds
(amounts in **bold** are the total budget)

2014-2016

(Projects listed by agency priority; descriptions are from the agency submission)

1 Construct - Instructional Building at HSC **\$71,730,000**

This project will construct new instructional space while renovating existing instructional areas along with the Kornhauser Library to serve the academic needs of the Health Sciences Center. The following scope is planned: Construct an in-fill building of approximately 81,000 GSF to the HSC Quadrangle to provide state-of-the-art instructional facilities including two large lecture halls seating approximately 200 students, a series of smaller seminar rooms, computer testing facilities, and a new Gross Anatomy Instructional Laboratory. The new Gross Anatomy Lab will support the increase in class size of both the Schools of Medicine and Dentistry, and will allow for the installation of imaging and computer-based instructional systems for the display of MRI, computer tomography and x-ray images to simulate diagnostic tools used in current professional practice. Existing instructional space will be renovated to expand the current clinical skills and simulation training facility, and to create additional small group and student study spaces. The Kornhauser Health Sciences Library/ Commons, a 72,147 GSF facility serving the research and academic needs of Medical, Dental, Nursing, Public Health and Informational Science programs for undergraduate, graduate and post-doctoral programs will also be renovated. The present facility has not undergone major modernization since it was constructed in 1970. The renovation will upgrade the facility to accommodate modern computer-based learning and research technology. It is essential that the building receives total modernization, including replacement of mechanical, electrical, and voice/data systems along with being re-configured to meet the needs of new teaching procedures that stress group-based learning and problem solving in a technology rich environment. (The university is requesting \$35,865,000 GF and \$35,865,000 AB for this project) (C-O)

2 Expand and Renovate - Student Activities Center **\$21,460,000**

This project would construct an approximately 50,000-gross-square-foot addition to the west side of the Student Activities Center on Belknap Campus, as well as renovating approximately 19,000-gross-square-feet to help alleviate space deficiencies in the common areas of the building that serve an increasing number of residential students. (The university received authorization in House Bill 7 for the \$9.6 million agency bond project, *Expand and Renovate Student Activities Center*. The current HB 7 authorization and this project are related, in that this project will further expand the scope of work of the HB 7 authorization to \$21.46 million if funding is identified. If that project does not get authorized, or for whatever reason does not proceed, the university would then plan to move forward with the \$9.6 million project only.) (C-O)

3 Purchase - Land Support Service (Northeast Quad) \$15,600,000

This project will allow the university to continue to acquire property consistent with its land use plan to deal with the developmental and expansion needs of Belknap Campus. The property includes five buildings on 4.762 acres of land. The university is currently leasing the land and buildings. The land will be used to consolidate the support services programs to the northeast quadrant of campus. (C-O)

4 Renovate - Medical School Tower Lab / Infra Renewal \$34,500,000

This authorization will renovate a large portion of the Medical School Tower including laboratory, laboratory support, and research office space along with associated building infrastructure. The Medical School Tower Building was opened in 1970 to provide research and academic space for the School of Medicine's Basic Science Departments. Since that time, no significant renovations have taken place. With the changes in research and technology requirements, this project will allow the reconfiguration and updating of this facility to maximize space utilization and create modern and functional research laboratories and associated support spaces. (C-PI)

5 Renovate - Medical Dental Research Infrastructure \$10,406,000

Though parts of this facility have been renovated into very functional research laboratories and associated support spaces over the last few years, none of the projects have addressed the aging infrastructure of the building as a whole. This project will bring the remainder of the facility to the same quality and prepare the facility to meet the future research needs of the university's Health Sciences Center. This building received an unsatisfactory rating by Paulien & Associates when evaluated for adequacy and fit for continued use. (C-PI)

6 Renovate - Guaranteed Energy Savings (2014-2016) \$10,000,000

This project will allow U of L to enter into an agreement with a Performance Contractor to reduce our energy usage. Energy savings will be used to pay for facility upgrades/modifications – this will apply to several campus buildings. (C-PI)

7 Renovate - Belknap Office Building \$8,045,000

This project will renovate the former Southern Kitchens building, a 52,100-gross-square-foot building on the north end of Belknap campus that was recently acquired by the university, into office and workshop space for various departments. (C-O)

2016-2018

(Projects listed by agency priority)

1	Construct - Belknap Parking Garage II	\$43,925,000
2	Construct - HSC Parking Structure III	46,680,000
3	Construct - Residence Hall	44,450,000
4	Construct - Chestnut Street Garage Speed Ramp	945,000
5	Renovate-Medical School Tower Office Infrastructure	18,964,000

2018-2020

None

UNIVERSITY OF LOUISVILLE
Proposed Projects NOT Involving the General Fund, Road Fund, or Agency Bonds
(amounts in **bold** are the total budget)

2014-2016

(Projects listed in alphabetical order)

Construct - Administrative Office Building **\$51,245,000 RF**

This project would construct a new 192,780-gross-square-foot building on the northwest corner of the Belknap Campus to house various university administrative offices and would also include leasable retail/office space. (C-O)

Construct - Artificial Turf Field for Intramural **\$733,000 RF**

This project would replace the natural grass field used by the intramural program and the marching band with a synthetic turf field with underfield drainage system. (C-O)

Construct - Athletic Academic Support Facility **\$17,040,000 OT-P**

This project is to construct a 46,200 GSF facility to house the university's athletic academic support functions. The building upon completion will house the following student/athlete functions: classroom/tutoring areas; student lounges; seminar/conference space; and athletic training table food service. (C-O)

Construct - Athletic Equip / Apparel Storage Facility **\$750,000 OT-P**

This project would call for the construction of a storage facility for the University of Louisville Athletic Department. The location of this storage facility would be adjacent to or in close proximity to Papa John's Cardinal Stadium. Upon completion, the facility would increase storage for the equipment staff that serves all 23 sports programs. The facility would serve as a central location to securely house all game equipment and apparel. (C-O)

Construct - Athletic Grounds Building **\$1,500,000 OT-P**

This project calls for the construction of a grounds building facility, which will be located at the north end of the football practice field facility. It will serve as a storage and maintenance unit for facility and grounds equipment (tractors, mowers, gators, etc). The unit will also help in better storing hazardous materials (fertilizers, herbicides, gasoline, etc). (C-O)

Construct - Athletics Office Building **\$7,400,000 RF**

This project would construct a 25,000-gross-square-foot building for athletic administration to include minor sport coaching and administrative staff offices to be relocated from the former football training building off campus at the Kentucky Fair & Exposition Center. (C-O)

Construct - Belknap 3rd Street Improvements **\$2,180,000 RF**

This project would provide pedestrian improvements along the 3rd Street corridor on Belknap Campus. (C-O)

Construct - Belknap Brandeis Corridor Improvements **\$3,100,000 RF**

This project would provide pedestrian improvements along the Brandeis Street corridor on Belknap Campus. (C-O)

Construct - Belknap Center Place Plaza **\$8,840,000 RF**

Center Place, located in the heart of the campus, is proposed to be the most important open space on campus. The intent is to create a vibrant new image place and campus symbol for the university. It would define the center of the campus and become the most iconic campus space. It would give structure to the campus by becoming the foremost in the hierarchy of campus spaces and it would set a new standard of campus open space design. The space itself extends from the Natural Science Building and its proposed addition on the south to the Life Science Building on the north. It is in reality two separate spaces on either side of Gardiner Hall linked by walkways on either side of that building. (C-O)

Construct - Belknap Century Corridor Improvements **\$990,000 RF**

This project would make improvements in the Century Corridor area of Belknap Campus. Century Corridor extends from Houchens to 3rd Street passing south of Belknap Research, Humanities and the Library, and crossing Center Place just north of Gardiner Hall. (C-O)

Construct - Belknap Floyd St Corridor Improvements **\$3,930,000 RF**

This project will provide safety and aesthetic improvements along Floyd Street on Belknap Campus. The Floyd Street Corridor project will improve pedestrian safety along the Floyd Street corridor in a similar manner as the recently completed improvements along Eastern Parkway. (C-O)

Construct - Belknap Stormwater Improvements **\$5,000,000 RF**

This project would improve stormwater runoff and retention on Belknap Campus to aid in prevention of flooding on campus. (C-O)

Construct - Center for Creative Studies **10,193,000 RF**

This project would build a 14,990-gross-square-foot building to house the Center for Creative Studies for the Fine Arts Department. (C-O)

Construct - Center for Social Change **\$13,610,000 OT-P**

This project calls for the construction of a new 35,000 square foot facility that will house the current Multicultural Center, Office of Minority Affairs and the Upward Bound program (and other TRIO programs pending federal funding). The multicultural programs and services under the auspices of the Vice Provost for Diversity are currently housed in three different buildings. (C-O)

Construct - Center for the Performing Arts **\$76,660,000 RF**

This project would construct a 126,000-gross-square-foot performing arts facility on Belknap Campus to replace aging facilities and consolidate theater arts performing space into one location. (C-O)

Construct - Clinical / Office Space in West End **\$3,949,000 RF**

The Health Sciences Center will be leasing space in a new project in the West End. The project will include medical and dental clinics, support space and offices. The build-out of the clinics and furniture/equipment purchases are the responsibility of the university. (C-O)

Construct - College of Business Courtyard / Café **\$1,819,000 RF**

This project would partially enclose the existing exterior courtyard at the College of Business and create a small cafe area. (C-O)

Construct - Executive MBA / Business Program **\$12,000,000 RF**

This authorization will allow construction of a new 25,000 GSF Executive/Business studies facility in downtown Louisville. The new building will provide classroom and interactive instructional spaces for experienced professional and graduate level students seeking advanced degrees while maintaining their current professional careers. (C-O)

Construct - Flexner Way Mall - Floyd to Preston **\$1,720,000 RF**

This project would reconfigure the block of Abraham Flexner Way between Floyd and Preston Streets as a pedestrian mall and restricted use service access corridor to facilities' loading docks. (C-O)

Construct - Flexner Way Mall - Jackson to Hancock **\$780,000 RF/OT-P**

This project would reconfigure the block of Abraham Flexner Way between Jackson and Hancock Streets as a pedestrian mall, enhancing visitor, student, and faculty and staff movement between the various buildings. (C-O)

Construct - Flexner Way Mall - Preston to Jackson **\$890,000 RF/OT-P**

This project would reconfigure the block of Abraham Flexner Way between Jackson and Preston Streets as a pedestrian mall, enhancing visitor, student, and faculty and staff movement between the various buildings. (C-O)

Construct - HSC Steam / Chilled Water Plant II **\$36,300,000 RF**

This project will construct a 30,000 GSF satellite steam/chilled water plant to serve the eastern portion of the Health Sciences Center campus. Construction features will include a new 6,000-ton chiller and boilers with a capacity to produce 50,000 pounds of steam per hour along with the needed electrical infrastructure to support power distribution. The new plant will tie in by extension of steam/chilled tunnel system allowing limited emergency support of these systems across the entire HSC Campus. (C-O)

Construct - Intramural Field Complex **\$7,780,000 RF**

This project would construct a six-field intramural complex with a facilities building and integrated cardio-path. (C-O)

Construct - IT Center Data Center **\$38,000,000 RF**

This project will build or renovate data center space to house computing resources, storage and systems supporting enterprise data processing and research computing needs for the university. This could be done as a new free-standing facility or an addition/renovation at the Miller Information Technology Center. (C-O)

Construct - Kosair Medical Office Building Fitout **\$19,745,000 RF**

This project will build-out and equip ambulatory clinic space leased by the Department of Pediatrics in a new facility to be constructed by a hospital affiliate partner. (C-O)

Construct - Physical Plant Space in HSC Garage **\$2,440,000**

This project would create new space for the Physical Plant department at the Health Sciences Center campus by consolidating current office, support, and shop operations allowing adequate expansion to support growth in both the university's research and academic space on the HSC Campus. The addition of the following new research facilities necessitates this project. Recent Growth: 1. Cardiovascular Innovation Institute (66,727 GSF) 2. The new School of Public Health and Information Sciences (36,210 GSF) 3. The Clinical and Translational Research Building (287,000 GSF) (C-O)

Construct - Utilities, Remove Overhead Lines **\$10,750,000 RF**

This project will install underground high voltage electrical circuits along Floyd Street and Third Street adjacent to Belknap Campus to replace existing overhead lines. (C-O)

Expand - Chilled Water and Electrical Service Upgrade **\$13,300,000 RF**

The chilled water, electrical, and steam distribution systems on our Belknap Campus are at or near capacity as well as having reached or surpassed their expected useful life in some cases. As well, we are hampered in our ability to provide these vital services to existing research or academic buildings or to those which will be added on the campus. This project will expand the central chiller plant, electrical room, provide larger electrical services for the campus, provide backup electrical feeders, and expand the steam and chilled water tunnel to the south end of the campus and connect it into a loop that would go under Eastern Parkway. It will also add cooling towers and chillers at the central plant as part of this project. (C-PI)

Expand - Rauch Planetarium **\$3,352,000 FF**

This project would construct an approximately 3,000-gross-square-foot addition to the Rauch Planetarium on Belknap Campus. (C-O)

Expand - Sackett Hall **\$14,758,000 RF**

The project would allow for construction of a 25,800 GSF addition to the existing Sackett Hall building serving the academic and research needs of the Speed Mechanical Engineering Department. (C-O)

Expand - Schnellenberger Football Complex **\$7,500,000 OT-P**

This project would construct an 18,000 square foot addition to the Schellenberger Football Complex on Belknap Campus. The expansions would call for an 11,500 square foot addition to the weight room, 4,000 square feet to the training room, and 2,500 square feet for storage, mechanical/electrical space, and equipment for the new expanded spaces. (C-O)

Expand and Renovate - College of Education Building **\$60,107,000 RF**

This project will include renovation and renewal of classrooms, department and faculty offices for the College of Education and Human Development (CEHD), as well as a 69,000-gross-square-foot addition to consolidate CEHD programs into the facility that are scattered across Belknap Campus. The project will include a total renovation of the 95,479 gsf building (completed in 1981) with a primary focus on providing facilities for training teachers. Completion of this project will help provide the needed teaching facilities for increased emphasis on laboratory experience and collaborative work where students are more active participants in the learning process. This need is reflected in the unsatisfactory rating of 1.5 when rated by VFA for adequacy and fit for continued use. The project will include renewal of the building exterior including window, door and roof replacement, site and accessibility improvements. Interior renovation includes reconfiguration, and modernization of existing space with replacement of the HVAC, plumbing, electrical, lighting and energy management systems in making the facility compliant with current life safety and building codes. This need is reflected in the 49% FCI as reported by VFA Inc. (C-PI)

Lease - Digital Output System **\$2,500,000 RF**

Network digital output system to provide high volume output for research, instructional, and institutional documents. This network digital output system will be an upgrade/replacement to existing network digital output systems. Dependent upon the technology available and volume necessary to meet the increased needs of the university faculty, staff, students, and administrators. (IT)

Purchase - Additive Microdeposition Machine **\$825,000 FF**

This equipment (Additive Deposition Machine) will be used by the Rapid Prototyping Center (RPC) of the Speed School to create prototypes with fine features, as well as perform research on multi-scale structures. (EQ)

Purchase - Artificial Turf - Practice Field Facility **\$950,000 OT-P**

This authorization will purchase and install approximately 100,000 square feet of artificial turf to an outdoor practice field that can be used throughout the year. This facility will serve various programs. (C-O)

Purchase - Automatic Bedding Dispensing & Removal System **\$278,000 RF**

An efficient & safe means of supplying and discarding clean and soiled animal bedding. The equipment will support the work of the Research Resource Center (RRC) at HSC. (EQ)

Purchase - Biological Material Deposition Machine **\$600,000 RF**

This equipment will be used by the Rapid Prototyping Center of the Speed School to prepare prototypes for bio-medical applications. (EQ)

Purchase - Bulk Sterilizer (RRC) **\$421,000 RF**

More efficient means of providing sterilized caging equipment to irreplaceable animal colonies. (EQ)

Purchase - Cage and Rack Washer (A Tower) **\$220,000 RF**

Current equipment surpassed useful expectancy and costly to maintain. (EQ)

Purchase - Cage and Rack Washer (x2, RRC) **\$398,000 RF**

Current equipment surpassed useful expectancy and costly to maintain. (EQ)

Purchase - Cell Isolation System **\$600,000 RF**

This instrument supports UL's regenerative medicine program. The instrument allows the separation of different types of cells from tissue samples. (EQ)

Purchase - Cell Processing Unit (1) **\$750,000 RF**

Performing clinical research with human cardiac stem cells requires strict, FDA-approved procedures, which, in the absence of a dedicated facility, are possible only with a Class 100 cell processing system. The initial and ongoing costs are far lower than a traditional facility. (EQ)

Purchase - Cell Processing Unit (2) **\$750,000 RF**

Performing clinical research with human cardiac stem cells requires strict, FDA-approved procedures, which, in the absence of a dedicated facility, are possible only with a Class 100 cell processing system. The initial and ongoing costs are far lower than a traditional facility. This second system is planned in anticipation of continued programmatic growth. (EQ)

Purchase - Computer Processing System **\$8,000,000 RF**

Computer processing systems to provide computing resources in support of administration, instruction and research for faculty, staff, and students. This computer processing system will be an upgrade/replacement to existing enterprise systems depending upon the technology available and service needs in the respective fiscal year. The system is necessary to meet the increased computing needs of the university faculty, staff, student, and administrators. (IT)

Purchase - Console for 18.8 T Nuclear Magnetic R **\$900,000 RF**

Hig-field NMR is a principal tool for determining structure and dynamical information of biomolecules. The console generates the radio waves that stimulate the biomolecules and analyzes the response. It is almost all of the instrument outside the magnet itself. (EQ)

Purchase - Cytof Instrument **\$600,000 FF**

This instrument would expand the analytical capacity of the existing Flow Cytometry Core. It combines single cell cytometric capacity with mass spectrometric analysis for the identification of up to 40 parameters per cell. This would enable a better definition of the phenotype and functionality of rare cell types. (EQ)

Purchase - Dematic Robotic Retrieval System x2 **\$2,426,000 RF**

Two additional robotic cranes and yet to be determined number of bins for the remaining two additional aisles for completion of the University Libraries Robotic Storage and Retrieval System installed in 2006. Used for storage and preservation of print library materials. (EQ)

Purchase - Digital Communications System **\$6,000,000 RF**

Equipment for digital transmission of data, voice, and video to upgrade and enhance the university communications network. The Digital Communication System will be an upgrade/replacement to existing enterprise and communications network infrastructure systems dependent upon the technology available and service needs in the respective fiscal year. (IT)

Purchase - Digital Materials 3-D Printing System **\$300,000 FF**

Researchers will be able to perform research on composition-graded materials once this equipment has been acquired. (EQ)

Purchase - Direct Metal Additive Fabrication Mac **\$650,000 FF**

This equipment will allow researchers ability to perform research in additive manufacturing. (EQ)

Purchase - Electronic Research Information System **\$2,700,000 RF**

This is an on-going project designed to improve and increase access to electronic research information. This enables students, faculty, and researchers to remotely access information anytime, anywhere via the Internet by logging on to the UL Libraries Web site. (IT)

Purchase - Enterprise Application System **\$6,000,000 RF**

Enterprise application will provide academic and institutional support in the delivery of instruction and research. (IT)

Purchase - FACS Aria II Special Order System **\$530,000 FF**

High Speed cell sorting and characterization of cells by flow cytometry with the FACS Aria II is essential for collection and characterization of cells used in basic and translational research studies. (EQ)

Purchase - Fiber Infrastructure **\$7,000,000 RF**

This project will expand the university's fiber backbone network in the metropolitan Louisville area. This project will expand the university's ability to meet its missions of education, service and economic development. (IT)

Purchase – Fourier - Transform Mass Spectrometer **\$1,100,000 RF**

This piece of equipment aids in the discovery of new metabolic pathways, particularly those involved in diseases. This discovery is enabled by the identification of molecules in those pathways. (EQ)

Purchase - High Resolution Echocardiography System **\$350,000 FF**

This system would be added to our Core facility. As the group continues to grow, the available instrument time on existing equipment will become scarce. (EQ)

Purchase - High Resolution Triple TOF Mass Spect **\$400,000 FF**

The AB SCIEX triple TOF 5600 System is a high mass accuracy, high throughput liquid chromatography (LC) mass spectrometry (MS) that supports workflows for qualitative proteomics, rapid semi quantitative profiling, and high resolutions quantification experiments workflows on a single platform. It combines highest sensitivity detection and high-resolution with enhanced acquisition speed and stabilized high mass accuracy (over days of acquisition). (EQ)

Purchase - Imagine Eyes - Adaptive Optic Retinal **\$200,000 FF**

The acquisition of an Adaptive Optic Retinal Imaging System will allow visualization and counting of cone density in the human/animal eye to allow documentation of results of retinal transplantation. (EQ)

Purchase - Individually-Ventilated Caging System **\$600,000 RF**

This equipment for A Tower will create significant improvement in environmental control for irreplaceable rodent colonies; significantly enhanced space and labor utilization. (EQ)

Purchase - Individually-Ventilated Caging System **\$597,000 RF**

This equipment for the RRC allows for significant improvement in environmental control for irreplaceable rodent colonies; significantly enhanced space and labor utilization. (EQ)

Purchase - IT Data Center Support Systems **\$20,000,000 RF**

Provide data center infrastructure to support university administrative, instructional, and research systems, including containerized products and integrated modular data center solutions. (IT)

Purchase - Land Near Belknap Campus-East **\$750,000 RF**

This will provide authorization for purchase of land near the east side of Belknap Campus should it become available. (C-O)

Purchase - Land Near Belknap Campus-North **\$8,320,000 RF**

This will provide authorization for purchase of land near the north end of Belknap Campus should it become available. (C-O)

Purchase - Land Near Belknap Campus-South **\$6,240,000 RF**

This will provide authorization for purchase of land near the south end of Belknap Campus should it become available. (C-O)

Purchase - Land Near Floyd Street - Parcel I **\$5,200,000 RF**

This authorization would allow for the purchase of land along the Floyd Street corridor near Belknap Campus as it becomes available to be used for sites for future Athletic facilities. (C-O)

Purchase - Land Near Floyd Street - Parcel II **\$5,200,000 RF**

This authorization would allow for the purchase of land along the Floyd Street corridor near Belknap Campus as it becomes available to be used for sites for future Athletic facilities. (C-O)

Purchase - Land Near HSC - Parcel I **\$35,615,000 OT-P**

This project will purchase property adjacent to the Health Sciences Campus, should it become available. This property is 3.38 acres that currently contains a 106,428-gross-square-foot office building. The existing building will house offices for faculty and staff in the School of Medicine. (C-O)

Purchase - Land Near HSC - Parcel II **\$6,275,000 RF**

This authorization will be used to purchase property adjacent to the Health Sciences Campus within the current Louisville Medical Center. The university will purchase, should the land become available, a 2.8-acre parcel of land having 11,275 SF of commercial improvements and a 2,790 SF residence. The university will use the existing improvements prior to planned future redevelopment to accommodate campus expansion. (C-O)

Purchase - Land Near HSC - Parcel III **\$3,120,000 RF**

This would grant the authorization to purchase a parcel of land near the Health Science Center campus bounded by Clay & Shelby Streets to the east and west and by Chestnut Street to the south, should it become available. The parcel covers approximately 2 acres. (C-O)

Purchase - Land Near HSC - Parcel IV **\$3,240,000 RF**

This would grant the authorization to purchase a parcel of land near the Health Science Center campus should it become available. The parcel covers approx. 1.86 acres. (C-O)

Purchase - Large Frame Plastic Deposition Machine **\$750,000 FF**

This equipment allows researchers to perform research in additive manufacturing. (EQ)

Purchase - Large Frame Plastic Sintering Machine **\$900,000 FF**

This equipment will allow researchers to research additive manufacturing. (EQ)

Purchase - Leica TCS SP8 Laser Confocal Scanning **\$250,000 FF**

Modern cell biology and microbiology requires sophisticated imaging technologies to visualize reactions that occur inside the cell. The confocal microscope allows that to be done, readily accomplished. (EQ)

Purchase - Library Tables, Chairs, Wired Study C **\$275,000 RF**

Many existing tables and chairs in Ekstrom, Art, Kornhauser and Music libraries are now between 30-35 years old. They have been repaired, reconditioned and reupholstered to the point where they can no longer be sustained. Some existing study carrels are over 50 years old and aren't equipped to support today's electronics/technology and need replacement. (EQ)

Purchase - MALDI-TOF Mass Spectrometer **\$500,000 FF**

The AB-4800 plus MALDI-TOF (Matrix Assisted Laser Desorption Ionization - Time of Flight) Mass Spectrometer is used for the identification and characterization of proteins and synthetic macromolecules. (EQ)

Purchase - Metal Evaporation System **\$250,000 RF**

This equipment will allow research in solar cells and LEDs. (EQ)

Purchase - Micron Diagnostic / Imaging System **\$200,000 FF**

The acquisition of a Micron Diagnostic/Imaging System will allow optical imaging and electrophysiological investigation of the retina in rodents and other species. (EQ)

Purchase - Mobile Animal Runs **\$323,000 RF**

This equipment will fit newly-developed space for increasing large animal needs. (EQ)

Purchase - MOCVD System **\$450,000 FF**

Researchers will be able to perform power electronics research with this equipment. (EQ)

Purchase - MS-MS Tandem Mass Spectrometer **\$1,100,000 RF**

This equipment performs multiple stages of mass analysis separation done in tandem mass spectrometry and can result in different types of fragmentation and thus different information about the structure and composition of the molecule. (EQ)

Purchase - Multispectral Imaging Flow Cytometer **\$390,000 RF**

This system allows measurement of location and co-localization of multiple markers (proteins) on or within cells, as well as quantitation of morphologically distinct cell subpopulations. (EQ)

Purchase - Networking System **\$8,000,000 RF**

The Networking System will be an upgrade/replacement to existing enterprise and network infrastructure systems dependent upon the technology available and service needs in the respective fiscal year. Systems necessary to meet the increased networking needs of the university faculty, staff, student and administrators. (IT)

Purchase - Next Generation DNA Sequencer **\$525,000 RF**

Modern biomedical research is increasingly dependent on a whole organism approach to studying disease. This requires the detailed knowledge of the entire genome sequence, which can be obtained with this instrument. (EQ)

Purchase - Olympus Photon Microscope (x2) **\$719,000 FF**

Purchase 2 Photon Microscope - A multi-photon system will be used to image complex biological elements from cornea and the lens through neural retina, as well as, subcortical and cortical structures. Specific equipment would be Olympus brand, model BX61-M FV1000 MPE. (EQ)

Purchase - PCs, Printers, Scanners for Libraries **\$700,000 RF/OT-P**

Computer processing system to provide computing resources in support of administration, instruction, and research for faculty, staff and students. The University Libraries currently have more than 600 PCs and laptops. In order to continue its service of providing up-to-date technology to faculty and students, worn out and outdated PCs and laptops need to be replaced continuously. This is an on-going effort. (IT)

Purchase - PET Scanner **\$3,000,000 RF**

A positron emission tomography (PET) scanner is used to evaluate the function of the heart. We use this equipment to understand how different therapies help the heart heal following an injury. (EQ)

Purchase - Quadruple Orbitrap Mass Spectrometer **\$500,000 FF**

The Thermo Q-Exactive is a high resolution, high throughput accurate mass bench-top mass spectrometer advanced fragmentation abilities for both bottom up and top down (whole protein) analysis, molecules (metabolome). The Q Exactive supports a range of applications including a high throughout analysis of purified protein samples, fragmentation analysis protein digests, and analysis of small molecules (metabolome). (EQ)

Purchase - Research Computing Infrastructure **\$7,000,000 RF**

This equipment will enhance the research computing infrastructure by providing unix clusters, supercomputers, data management systems, visualization systems, grid resources, storage and networking to support the research mission and activities of the university. (IT)

Purchase - Rodent Plastic Caging **\$398,000 RF**

Replacement caging for existing animal colonies; caging has deteriorated (cloudy, cracked, crazed). (EQ)

Purchase - Scanning Electron Microscope **\$400,000 RF**

This instruments permits high magnification evaluation of medical devices. This is critical to understanding how devices perform in research models. (EQ)

Purchase - Security and Firewall Infrastructure **\$8,000,000 RF**

This equipment will enhance the security and firewall infrastructure to protect university data and systems from unauthorized access, intrusion and compromise. (IT)

Purchase - Soccer Stadium Video Boards **\$1,050,000 RF**

This authorization would allow for the purchase and installation of video boards for the Soccer Stadium which is now in the planning stages. (EQ)

Purchase - Storage System **\$12,000,000 RF**

Computer processing data storage systems to accommodate storage of research, instruction, and institutional data records and databases. This computer storage system will be an upgrade/replacement to existing storage systems, dependent upon the technology available and data volume necessary to meet the increased computing needs of the university faculty, staff, student, and administrators. (IT)

Purchase - Super Resolution Confocal Microscope **\$750,000 FF**

This system will allow scientists to visualize biological processes at unprecedented resolutions (far beyond conventional confocal microscopes) in intact cells. (EQ)

Purchase - Teleconferencing / Computer Equipment **\$500,000 RF**

Teleconferencing and computer equipment to provide resources in support of instruction, research and administrative activities on the campus. Equipment will support the Executive VP for Health Affairs' units. (IT)

Purchase - Tunnel Cage Washer (A Tower) **\$208,000 RF**

Current equipment surpassed useful expectancy and is costly to maintain. (EQ)

Purchase - Two-Photon Imaging System **\$480,000 FF**

The 2 Photon imaging system allows higher resolution imaging critical for our live cell and tissue studies. (EQ)

Purchase - Two-Photon Laser Scanning Microscope **\$500,000 FF**

Two-photon excitation microscopy (also referred to as non-linear, multiphoton, or two-photon laser scanning microscopy) is an alternative to confocal and deconvolution microscopy that provides distinct advantages for three-dimensional imaging. In particular, two-photon excitation excels at imaging of living cells. (EQ)

Purchase - UHR-TOF Mass Spectrometer **\$500,000 FF**

The Bruker Daltonics Maxis is a UHR-TOF MS supports a range of applications significantly including fragmentation analysis of whole proteins (top down proteomics). The Maxis is able to maintain ultra-high resolution of observed masses even at high mass ranges (hundreds of kilodaltons); where other ultra-high resolution instruments may begin to diminish in their dispersive capacity. The Maxis comes enabled with state of the art methods to gently induce protein fragmentation such that labile protein post-translation modifications are retained. (EQ)

Purchase - Ultraview ERS 6FO Confocal Microscope **\$420,000 RF**

Modern multidisciplinary biomedical research interrogating cellular and subcellular processes requires the ability to capture high speed, high quality, high resolution images in live samples, over long periods of time, giving multidimensional data of cellular activity. This equipment is needed to fulfill this requirement. (EQ)

Purchase - Visualization System (Planetarium) **\$2,000,000 FF**

Technology is proposed to transform the Gheens Science Hall and Rauch Planetarium from a traditional planetarium dedicated to astronomy into an all-digital laboratory capable of STEM research and education. The proposed research instrumentation system acquisition includes the projectors and computer clusters needed for the rendering, production and display of volumetric data in an immersive dome environment. (IT)

Renovate - Abell Administration Building **\$1,593,000 RF**

The Abell Administration building room layout is awkward and inefficient. This project will refurbish the building, upgrade necessary infrastructure and construct a more efficient floor plan. (C-PI)

Renovate - Ambulatory Care Building **\$2,540,000 RF**

This project will renovate and reconfigure portions of the Ambulatory Care building. Existing clinics and offices will be reconfigured (expanded/contracted) to facilitate program alignments and educational needs. (C-PI)

Renovate - Belknap Playhouse **\$3,510,000 RF**

This project will include exterior renewal and renovation of the interior including Theatre Arts departmental and faculty offices, stage, restrooms, greenroom, auditorium, lobby, costume and prop storage, and common areas. Restoration of the building's exterior will include windows, doors, roof and gutter replacement, site and accessibility improvements. (C-PI)

Renovate - Brown Cancer Center 4th Floor **\$4,388,000 RF**

Renovation and reconfiguration of research space reserved to the university located in the James Graham Brown Cancer Center. (C-PI)

Renovate - Burhans Hall **\$17,000,000 RF**

This project will renovate 72,700 GSF in Burhans Hall located on the Shelby Campus. The building was originally constructed as a classroom and administration building. It was designed in 1960 and needs major system renewal and renovation. (C-PI)

Renovate - Chemistry Fume Hood Redesign, Phase II **\$9,730,000 RF**

This project will address the second phase of life/safety improvements to the ventilation system in the Chemistry Building, including: replacement of 105 existing fume hoods, installation of an additional 40 hoods for organic laboratories, installation of a building VAV control system, and related ductwork improvements. Upon completion of this work, the building ventilation will have been completely refurbished. (C-PI)

Renovate - Chemistry Teaching Labs / Auditorium **\$1,957,000 RF**

This project would include renovation of several teaching labs and a lecture hall on the 1st floor and lower level of the Chemistry Building. (C-PI)

Renovate - Code Improvement Pool **\$12,822,000 RF**

The code improvement project pool will allow the university to address seven different areas, which are: data collection panel, security panels, fire alarm systems, elevators/escalators, emergency generators, sprinkler systems, environmental health and safety projects. This project pool is necessary to bring university-owned buildings into compliance with current federal and state life and fire safety building codes. (C-PI)

Renovate - College of Business Classrooms **\$1,865,000 RF**

This project would renovate and upgrade 13 classrooms, including the main auditorium, in the College of Business to improve and update the technology in the teaching spaces. (C-PI)

Renovate - College of Business Green Roof **\$1,030,000 RF**

This project would construct a green roof on the College of Business to enhance energy efficiency. (C-PI)

Renovate - Concentrated Care Building **\$1,628,000 RF**

Renovation of existing academic space located within the Critical Care Building. This space is reserved to the university to support the teaching and research activities of the clinical faculty. Areas will be reconfigured to meet the increased program size and technology requirements of the School of Medicine. (C-PI)

Renovate - Delia Baxter Building Cleanroom **\$3,100,000 RF**

Construction of a new GMP certified clean room facility to support cardiac research activities. Project will include the creation of an FDA certified clean room facility and associated support areas for tissue processing. Wet bench laboratories will also be modified. (C-PI)

Renovate - Donald Baxter Building 2nd / 3rd Floor Labs **\$3,010,000 RF**

This project will renovate laboratory space on the second and third floors to accommodate new recruits. (C-PI)

Renovate - Donald Baxter Building Cleanroom Exp **\$987,000 RF**

Expansion of an existing GMP certified clean room facility to support research activities. Project will include the creation of a second clean room along with the reconfiguration of the associated research support areas for tissue processing. (C-PI)

Renovate - Dougherty Hall **\$9,233,000 RF**

This project will include exterior renewal and a total interior renovation including classrooms, teaching labs, common areas, and departmental and faculty offices for Army and Air Force ROTC. (C-PI)

Renovate - Ekstrom Library

\$58,076,000 RF

The Ekstrom Library occupies a 297,000 SF building, including the recent addition, and serves as the main academic library. This renovation of most of the original space is needed to address the requirements of a high level research institution and further the development in accordance with the university academic and research mandates. Infrastructures for distribution of electrical and data need to be updated to accommodate use of electric journals, media and internet access. The project will include refurbishing, updating and upgrades to the entire original facility along with major renewal of building mechanical, electrical and lighting systems. (C-PI)

Renovate - Football Practice Field Lighting

\$750,000 OT-P

This project would construct a field lighting system for the football practice facility located on the Belknap Campus. Currently, the football team is unable to practice during early morning or evening hours. By adding lights at the practice fields, the football team would be able to practice in the early mornings and evenings. This is beneficial because it keeps the student-athletes out of the extreme heat of late summer and early fall. (C-PI)

Renovate - Gross Anatomy Lab

\$5,558,000 RF

This project will renovate the university's 9000 square foot Gross Anatomy Lab in the Health Sciences Center Instructional Building, including a complete replacement of the HVAC system, autopsy exhaust and electrical systems. The lab must be expanded to accommodate the increase in class size of both the Schools of Medicine and Dentistry, and will allow for the installation of imaging and computer-based instructional systems for the display of MRI, computer tomography and x-ray images to simulate diagnostic tools used in current professional practice. (C-PI)

Renovate - Housing - Capital Renewal Pool

\$1,795,000 RF

The Capital Renewal Pool will allow the university to address approximately five types of projects: roof replacement, exterior building upgrades, interior building upgrades, mechanical upgrades and life/fire safety code improvements. (C-PI)

Renovate – HPES / Studio Arts Building

\$9,850,000 RF

This project will entail total interior renovation of the parts of the building used by the Departments of Theatre Arts and Fine Arts including complete renovation of the Thrust Theatre. (C-PI)

Renovate - HSC Instructional Building

\$4,433,000 RF

Renovation of space to accommodate changes in the curriculum and requirements of the School of Medicine's national accreditation organization. (C-PI)

Renovate - J. B. Speed Building

\$12,862,000 RF

The project will include renovation of the exterior and a total interior renovation of 40,974 GSF J. B. Speed Building, the centerpiece structure of J.B. Speed School of Engineering. The building has received only minimal renovation since original construction in 1942. (C-PI)

Renovate - Kornhauser Library **\$21,980,000 RF**

The Kornhauser Library, on the Health Sciences Center Campus, is a 72,147 GSF facility serving the research and academic needs of Medical, Dental, Nursing, Public Health and Informational Science programs for graduate, doctoral and post-doctoral programs. The present facility was not envisioned to accommodate modern computer intense learning and research technology. It is essential that the building receives total modernization, including replacement mechanical, electrical, voice/data systems along with being re-configured to meet the needs of current biomedical curriculums that stress group-based learning and problem solving in a technology rich environment. (C-PI)

Renovate - Kosair Pediatrics Center Offices **\$6,850,000 RF**

This project will renovate the building incrementally into a more efficient office floor plan to support the growth of the department of pediatrics. (C-PI)

Renovate - K-Wing 1st Floor Office Renovation **\$5,000,000 RF**

Renovation of Children & Youth Clinic into offices to support HSC program expansion. (C-PI)

Renovate – K-Wing Classroom Renovation **\$1,223,000 RF**

Renovation of existing offices to provide classroom expansion required to support the increased class size of the School of Nursing. (C-PI)

Renovate - KY Lions Eye Research Institute **\$20,707,000 RF**

This project will renovate the entire original portions (42,078 GSF) of the Kentucky Lions Eye Research Institute (KLERI) Building. The building was constructed in 1969 and is in need of major renovation, modernization and renewal of building systems to continue its mission of supporting health sciences research. (C-PI)

Renovate - Law School **\$36,081,000 RF**

Louis D. Brandeis School of Law occupies a total of 144,186 GSF and is comprised of three attached buildings: the original building constructed in 1939; west addition in 1974; and east addition in 1979. Little significant building renovation or modernization has occurred since completion of the 1979 addition. This project will include a total building renovation to create a more efficient facility. Building system improvements will include modernization of voice/data, mechanical, electrical and lighting systems along with exterior envelope renovation and replacement of windows and entrance doors. The leadership of the School of Law seeks to align the mission, goals, and culture of the school with the contemporary practice of law. The physical environment in which the School of Law conducts its work is central to student learning and faculty scholarship. The existing physical facilities hinder the School's standing among peer institutions. They obstruct the School's progress and hinder its ambitions. In every respect, Law School leadership aspires to reinvent these buildings' layout, function, technological capabilities, and architectural image so that the School's physical facilities affirmatively promote the School's mission. This project will make significant plan changes and reorganize functional relationships. It will increase useful space available to the School of Law through demolition, renovation, and new construction. (C-PI)

Renovate - Life Sciences Building Vivarium **\$1,140,000 RF**

This project would renovate and upgrade the vivarium facilities in the Life Sciences Building on Belknap Campus. (C-PI)

Renovate - Middleton Auditorium **\$700,000 RF**

This project entails total renovation and modernization of Middleton Auditorium in Strickler Hall on Belknap Campus to create an up-to-date auditorium/lecture hall. (C-PI)

Renovate - Miller Hall Infrastructure **\$750,000 RF**

This project will upgrade some of the building systems in Miller Hall including replacement of electrical wiring, exit lighting updates and replacement of sprinkler heads. (C-PI)

Renovate - Natural Science Building **\$29,843,000 RF**

This authorization allows the renovation of classrooms, teaching labs, departmental and faculty offices for Mathematics, Physics, and Geology. The project will include renewal of the building exterior including window, door and roof replacement, site and accessibility improvements. Interior renovation includes reconfiguration and modernization of existing space with replacement of the HVAC, plumbing, electrical, lighting and energy management systems. (C-PI)

Renovate - Oppenheimer Hall **\$5,389,000 RF**

This project will involve the renovation of the existing building which was constructed in 1885(last renovated in 1955). The renovation of the 10,979 GSF facility will include restoration of the exterior and interior refurbishment. (C-PI)

Renovate - Papa John's Stadium Seat Replacement **\$5,250,000 RF**

This project would replace the 42,000 chair-back seats in the original portions of Papa John's Cardinal Stadium. (C-PI)

Renovate - Research Resource Center **\$15,325,000 RF**

This project will renovate the Research Resource Center building and replace aging equipment and upgrade HVAC system. (C-PI)

Renovate - Resurface Track and Cardio Path **\$1,000,000 RF**

This project would resurface the track on the track & field stadium along with the cardio path at Cardinal Park on Belknap Campus. (C-PI)

Renovate - Schneider Hall **\$21,836,000 RF**

This renovation project will include exterior restoration and refurbishing of classrooms, department and faculty offices for the Fine Arts Department. (C-PI)

Renovate - Threlkeld Hall Infrastructure **\$1,500,000 RF**

This project will upgrade some of the building systems in Threlkeld Hall including installation of a new fresh air intake system, replacement of electrical wiring and replacement of chilled water controls. (C-PI)

Renovate - W.S. Speed Building **\$17,196,000 RF**

The project will renovate the exterior and a total interior renovation of 39,531 GSF of the W. S. Speed Building, part of the J.B. Speed School of Engineering. (C-PI)

Utility Distribution - South Belknap Campus **\$12,416,000 RF**

The project will extend the Belknap Campus utility distribution system by 1700 lineal feet providing enhanced Steam/Chilled Water, Electrical, Voice and Data services to the areas south of Eastern Parkway. (C-O)

2016-2018

(projects in alphabetical order)

Construct - Flexner Way Mall-Hancock to Clay	\$ 1,560,000 RF
Construct - Shelbyhurst Hotel/Conference Center	18,000,000 OT-P
Construct - Shelbyhurst Parking Garage	28,000,000 OT-P
Construct - Shelbyhurst Research & Dev Bldg	77,000,000 OT-P
Construct - Shelbyhurst Tech Ctr/Conference Fac	20,500,000 OT-P
Construct - Shelbyhurst Technology/Office Bldg	41,500,000 OT-P
Renovate - Bingham Humanities Building	37,374,000 RF
Renovate - Gardiner Hall	9,106,000 RF
Renovate - Gottschalk Hall	4,140,000 RF
Renovate - Jouett Hall	3,709,000 RF
Renovate - Sackett Hall	10,440,000 RF

2018-2020

None